

# RADIO COMMUNICATION SYSTEM

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

[0001] The present invention relates to a radio communication system, in particular, relates to a multi-hop radio communication system having a plurality of radio links.

### 2. Description of the Related Art

[0002] In a radio packet communication system such as a radio LAN (local area network) system and/or a mobile communication system, a CSMA/CA (Carrier Sense Multiple Access with Collision Avoidance) has been known as a distributed control access system. In that system, it is tested for a predetermined duration whether a channel to which a signal is to be transmitted is available or busy, before a data packet is transmitted, thus, the possibility of collision of packets is decreased. That system is described in ANSI/IEEE Std802.11 Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specification, and is taken as MAC protocol of IEEE802.11 standard.

[0003] However, when said CSMA/CA system which uses a distributed control access system is used in a multi-hop radio communication network, a competition occurs in each link, and because re-transmission is inevitable in case of a competition, a delay time between end terminals has much variance. Further, when a link is full, the transmission must wait until the link becomes available, and therefore, a delay time increases, thus, a throughput performance is degraded.